

# **METHODS OF FABRICATING A SEMICONDUCTOR SUBSTRATE FOR REDUCING WAFER WARPAGE**

## **Abstract of the Disclosure**

Methods of fabricating a semiconductor device can include forming at

5 least one layer on a first and a second side of a semiconductor substrate.

Portions of the at least one layer may be removed on the first side of the semiconductor substrate to form a pattern of the at least one layer on the first side of the substrate while the at least one layer is maintained on the second side of the substrate. A capping layer can be formed on the pattern of the at least one layer  
10 on the first side of the substrate and on the at least one layer on the second side of the semiconductor substrate. The capping layer can be removed on the second side of the semiconductor substrate, thereby exposing the at least one layer on the second side of the substrate while maintaining the capping layer on the first side of the substrate. The at least one layer can be removed on the second side of the  
15 semiconductor substrate, while the capping layer and the pattern of the at least one layer is maintained on the first side of the semiconductor substrate. A portion of the capping layer can be removed on the first side of the semiconductor substrate.